the process and conditions by which the best results should be obtained. One sees that the correct adjustment of the ore addition yields the highest output and shortest time per " heat," in connection with which it is practically indifferent whether one adds all the ore immediately at the start or if one adds it in successive small doses. The former is, however, more to be recommended, since one can more easily avoid periods with ore deficit. The presence of sufficient quantities of ore strongly diminishes the furnace action; indeed it disposes of it almost completely, whilst ore deficiency forthwith permits it to make its appearance. Through the oxidising action of the furnace, the yield is at the same time diminished, and the duration of the " heat" longer drawn out.

The disadvantages of too large ore additions have been cited already several times.

The rapidity of the course of the process depends directly on the greater or less quantities of heat which are at disposal. Hot pig iron and preheated ore permit the carbon elimination to begin and proceed with correspondingly more powerful intensit}r. Therefore, it is advantageous for the process to retain as much as possible in the pig iron from the blast furnaces its available heat, previous to charging it in the open-hearth furnaces. One should adopt measures to ensure this, the more especially as a high degree of heat in the pig iron causes no kind of disadvantage. At least in more than live years1 practice of this method the eventuality has not arisen in a single instance.

Preheating of the ore can scarcely come in question since the utilisation of the heating action of the furnace might be considerably less favourable in melting down ore than during the refining of the metal with oxygen from ore. If, however, not sufficient pig iron is present, and the open-hearth furnace must await the same, the consideration of preheating the ore has much attractiveness. One would then have no longer pauses in working, since in such, one could exercise the furnace action on the ore, and store up in it the respective quantities of heat, in order to be afterwards in the position to correspondingly more quickly finish the "heats." Such a method of working does not appear impossible; it is actually adopted